REMARKS

Applicants have been amended the claims in order to more particularly define the invention taking into consideration the outstanding Official Action.

In particular, the "if there is. . ." phrasing in independent claims 1, 8, 15, 23, 30, and 37 has been replaced by a recitation that the active state is entered "when" there is a duration for the specific station to receive/transmit data or "when" an association identification indicates that there is a corresponding remaining station to access the radio media, thereby eliminating the need for recitation of alternatives without changing the scope of the claim.

In addition, the suggested amendments to claims 15 and 37 ("Address 1 field" to --1 field address--) have been made and the extra characters at the end of claim 1 have been deleted.

Finally, claims 8 and 30 have been amended to recite that the network is a "distributed-manner mode" network.

These amendments do not introduce new matter into the application.

Reconsideration of this application is respectfully requested in view of the foregoing amendments and the following remarks.

I Response to Rejections Under 35 U.S.C. § 102

The rejection of claims 1-14 and 23-36 under 35 U.S.C. § 102(e) as being anticipated by Liu et al. (U.S. 2004/0190467 A1) hereinafter referred to as Liu, is respectfully traversed on the grounds that the Liu publication fails to disclose or suggest

- embedding schedule information including time slot information and association ID sets in a Beacon frame and periodically entering an active state to receive the Beacon frame, as recited in claims 1 and 23, and
- having the point coordinator transmit the schedule information *after* transmitting the beacon frame, and periodically entering the active state to receive the beacon and schedule frames in a distributed-manner mode network, as recited in claims 8 and 30,

thereby eliminating the need to separately transmit schedule information and resulting in a simpler implementation that requires less power than the system of Liu.

In the system of Liu, as explained in paragraph [0041], a schedule information vector SIV frame is used as a power saving mechanism, and the SIV frame is transmitted to the stations *within* a TIM frame of a beacon (claim 12). Unlike the beacon frame, the SIV frame of LIU is not part of the 802.11 protocol.

Because each of the independent claims specifically recites either "a beacon frame *with* a schedule information. . ." or transmission of schedule information "*after* transmission of the beacon" in a "distributed-manner mode" network, the Liu patent does not disclose all features of the claimed invention, and withdrawal of the rejection of claims 1-14 and 23-36 under 35 U.S.C. § 102(e) is respectfully requested.

II Response to Rejections Under 35 U.S.C. § 103

The rejection of claims 15-22, and 37-44 under 35 U.S.C. § 103(a) as being unpatentable over Liu in view of Yildiz et al. (Yildiz) (U.S. Patent No. 6,674,738 B1) is respectfully traversed on the grounds that the Yildiz and Liu patents fail to disclose or suggest transmitting a schedule information frame *after* a beacon frame and waking up a station based on association information in the schedule information frame.

From the description, it is clear that the invention provides a method and system for power saving in a wireless LAN, which uses the method of modifying the beacon frame body or broadcasting the schedule information frame. The medium access behavior of each station during the contention free period (CFP) and the contention period (CP) can be dynamically re-programmed. Therefore, the stations that should access the radio medium only wakes up at the specific access time to send or receive the packet and re-enters its power-saving state after the data transmission.

In the Liu patent, the schedule information vector SIV frame is transmitted to the stations within a TIM frame of a beacon, which will increase the length of the TIM. A STA needs to listen all the information of the TIM to determine whether there is an SIV frame for itself. The interval of the STA staying in the active mode is increased, thereby also increasing the power consumption of the STA. In the description of related art of the invention, it is known that the mechanism of the TIM in the IEEE 802.11 standard cannot effectively save power during the active period. The method of transmitting the SIV frame is based on the structure of the TIM frame, and it is difficult to exceed the limitations of the TIM structure.

Neither the Liu patent nor the Yildiz patent discloses or suggests providing a system for power-saving in a wireless local area network, as claimed, so that a control station transmits the schedule information frame after the beacon frame followed by a predetermined time period. The schedule information includes a duration field set to a specific time duration, a 1 field address set to a particular multicast address, and a frame body having a plurality of sets of association identification and time slot information. The association identification indicates that there is a corresponding first station to access the radio media. The time slot information specifies the time that the corresponding first station is in active state for accessing the radio media. A first station enters its active state to access the radio media in the time specified by the time slot

information in the schedule information frame when there is an association identification indicates that there is a corresponding first station to access the radio media. The invention uses a frame which includes a duration field set to a specific time duration for scheduling media access control during contention period (CP) which runs compatible with the CSMA/CA protocol. That is, in the invention, the duration field is set to a specific time duration for obtaining a scheduling contention free media access mechanism during contention period (CP), which is not shown in Liu patent and Yildiz patent. Instead, the Liu teaches using a schedule information vector SIV frame that is transmitted to the stations within a TIM frame of a beacon during the contention free period (CFP), while Liu does not disclose the system and method than can run compatible with the CSMA/CA protocol during contention period (CP). Yildiz, on the other hand, does not provide any sort of power saving mechanism during the contention free period (CFP) or contention period.

As such, not only is the method of the invention different from the cited references, but the protocol structure of the invention is also different from that of the cited references. Thus, the applicant respectfully submits that the invention is non-obvious to those persons of ordinary skill in the art to combine the teachings of Liu and Yildiz. Withdrawal of the rejection of claims 15-22 and 37-44 under 35 USC § 103(a) is respectfully requested.

CONCLUSION

In view of the foregoing remarks, reconsideration and allowance of the application are now believed to be in order, and such action is hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,
BACON & THOMAS, PLLC

By: BENJAMIN E. URCIA
Registration No. 33,805

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BACON & THOMAS, PLLC
625 Slaters Lane, 4th Floor
Alexandria, Virginia 22314

Telephone: (703) 683-0500